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AUTHOR Horwitz, Robert A.
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ABSTRACT

Children whose primary school experience was consistently "open," consistently "traditional," or "mixed" (open education followed by traditional) were compared on a number of psychological variables. Subjects were 120 children, aged 10 to 11, from six primary schools in suburbs of London, England. The open classroom group proved to be more creative and more positive in attitudes toward school and learning than either the traditional or the mixed group, and more self-responsible than the mixed group. No differences were found among the three groups on measures of IQ, reading ability, or curiosity. Results were interpreted as supporting the viability of the open classroom as a potentially beneficial educational alternative. (Author)

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Abstract

PSYCHOLOGICAL EFFECTS OF OPEN CLASSROOM TEACHING ON PRIMARY SCHOOL CHILDREN

Paper Presented at the 1977 APA Annual Convention

Robert A. Horwitz
Yale University

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Children whose primary school experience was consistently "open," consistently "traditional," or "mixed" (open education followed by traditional) were compared on a number of psychological variables. Subjects were 120 children, aged 10 to 11, from 6 primary schools in suburbs of London, England. The open classroom group proved to be more creative and more positive in attitudes toward school and learning than either the traditional or mixed group, and more self-responsible than the mixed group. No differences were found among the three groups on measures of IQ, reading ability, or curiosity. Results were interpreted as supporting the viability of the open classroom as a potentially beneficial educational alternative.

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NOTE: This paper is based upon a doctoral dissertation submitted to the Department of Psychology, Yale University, 1976.

A more complete report of the research is contained in the dissertation, entitled "An Investigation of Some of the Long-Term Psychological Effects of Open Classroom Teaching on Primary School Children in England," which is available from University Microfilms, Ann Arbor, Michigan (Order No. 77-14,044).

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Author's address: Adolescent Crisis Unit, Hospital of St. Raphael, 1450 Chapel Street, New Haven, Connecticut 06511.

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For over three decades, teachers in English primary schools have been developing an approach to teaching, variously described as "informal schooling," the "integrated day," or the "open classroom," which, to the observer, looks vastly different from the "traditional" approach to educating children. Rather than the usual straight rows of student desks, the open classroom is set up as a kind of workshop, with tables, work benches, and activity areas stocked with a multitude of materials for children's use. Art work, construction, graphing, mapping, and writing are encouraged and the children's products displayed prominently around the room. Children are allowed to move about freely, working independently or in small groups on projects dictated by their own interests and individual needs. The teacher is there to guide and instruct when needed, but children are expected to take initiative and assume responsibility for their own learning. The emphasis is on informality, activity, creativity, learning through experience, and meaningful integration of subject areas. The aim is not merely to "process" children through a preplanned curriculum, but to build on their own interests, to get them excited about the world around them, and to help them develop the skills and attitudes they need to continue learning on their own.

Although a number of enthusiastic narrative reports have been written testifying to the success of informal English primary schools and their American counterparts, systematic research on psychological effects of open education has been relatively scarce, inconclusive, and fraught with methodological difficulties (Horwitz, 1976). While no single study could possibly pretend to answer all the questions about

the impact of open classroom teaching on children, the present study was designed to avoid some of the timing and definitional pitfalls of previous research by focusing on long-term effects of well-established, well-defined programs in a carefully selected sample of open and traditional schools.

The study was undertaken in England rather than the U.S. for a variety of reasons, including: (1) greater availability in England of schools with long experience in open classroom teaching; (2) less susceptibility in England to the "Hawthorne effect," the tendency for an innovation to show positive effects simply by virtue of its novelty; and (3) greater opportunities for exploring the issue of continuity vs. discontinuity in educational approach, because of the organizational (and frequently philosophical) split in English primary schools between the infant school (age 5 to 7) and the junior school (age 7 to 11).

The purpose of the study was to assess some psychological effects of the open classroom by comparing the performance of children who had received consistent, long-term exposure to open education with the performance of two other groups of children: one which had received consistent, long-term exposure to traditional education, and one (the "mixed" group) which had experienced both open education (at the infant school level) and traditional education (at the junior school level). To maximize the cumulative impact of their respective school environments, all subjects were tested in their final year of primary school.

On the basis of chracteristics of open classrooms frequently cited in the open education literature, the following hypotheses were made: that children from open classrooms would show superiority over traditional classroom children on measures of creativity, curiosity, internal locus of control (i.e., tendency to accept responsibility for their own

achievements), attitudes toward school, and attitudes toward learning in general. The mixed group was predicted to score between the open and traditional groups. Because academic competence is as much a priority in open as in traditional classrooms, no differences among teaching approach groups were predicted for tests of IQ or reading ability.

Subjects were 120 white, native English, upper working-to-middle class children, aged 10 to 11, from fourth year junior classes in six primary schools in western suburbs of London. The schools were selected on the basis of (1) recommendations of local educational authorities, including advisors, inspectors, and college faculty; (2) intensive classroom observations and interviews with heads (principals) and teachers regarding the nature and history of the school's educational approach; and (3) quantitative assessment of the school's openness by means of a standardized rating scale, the 50-item Open Classroom Questionnaire (Walberg & Thomas, 1971, 1972), which was administered to teachers and heads. Two schools were chosen to represent each of the three teaching approaches (open, mixed, and traditional), and 20 subjects (10 boys and 10 girls) were selected at random from each school. The study was thus a 3 x 2 x 2 factorial design: Teaching Approach by Individual School within Approach by Sex.

Dependent variable measures included the following:

IQ: The English Picture Vocabulary Test (Brimer & Dunn, 1962), an individually-administered verbal intelligence test adapted from and identical in format to the American Peabody Picture Vocabulary Test (PPVT).

Reading Ability: The NFER Reading Test S-2, a 35-item, group-administered, multiple choice reading test developed and standardized by the National Foundation for Educational Research in England and Wales

(NFER, 1973) for use with fourthyear junior school pupils.

Creativity: (1) The Alternate Uses Task (from Wallach & Kogan, 1965), an individually-administered task in which eight common objects (newspaper, knife, cork, etc.) are named and subjects are asked to indicate all the different ways each can be used. Responses are recorded by the examiner and converted into two numerical scores: productivity (total number of responses) and uniqueness (number of responses given by no other subject). (2) The Sorting Task (from Wallach & Kogan, 1965), an individually-administered task in which subjects are presented with an array of 50 file cards each bearing a line drawing of a common object (e.g., fork, door, tire) and are asked to "look the pictures over and put all the pictures that seem to belong together into groups." Instructions are designed to emphasize the task's game-like nature and encourage idiosyncratic, nonconventional responses. Responses are recorded and coded according to conceptual style and cleverness, with more creative responses defined as being high in "relational" style and high in cleverness (as rated by two independent judges).

Curiosity: The 41-item, group-administered, self-rating inventory developed by Maw & Maw (1968). This questionnaire consists of brief descriptive sentences (sample item: "I like to find out how things work"), to which the child responds on a four-point Likert scale (never, sometimes, often, or always).

Locus of Control: The Intellectual Achievement Responsibility Questionnaire (IAR) developed by Crandall, Katkovsky & Crandall (1965). Each of the 34 items in this group-administered scale describes a hypothetical achievement experience (e.g., "Suppose you did better than usual in a subject at school") and asks the child to choose between two

alternative causes of the event: (1) internal--the child's own effort, ability, etc., or (2) external--the behavior of other people or other circumstances. Half the items deal with positive, success experiences and half with negative, failure experiences. Three scores are obtained: I+ (the number of positive (success) items in which the internal control response is chosen), I- (the number of negative (failure) items in which internal responses are chosen), and I Total (the sum of I+ and I-).

Attitude toward School: Three sub-scales (28 true-false items) from the group-administered Barker Lunn (1970) pupil attitude questionnaire: Academic Self-Image (e.g., "I think I'm pretty good at school work"); Anxiety in Class (e.g., "School work worries me"); and Attitude to School and Interest in School Work (e.g., "I like school"). In addition to the score obtained from each sub-scale, a Total Attitude score is obtained by summing the three sub-scale scores.

Attitude toward Learning: An individually-administered, TAT-like projective device from the Cohen & Weil (1971) Tasks of Emotional Development. Each subject is presented a picture of a child sitting at a desk with what appears to be a book and is instructed to make up a story about it. Stories are recorded verbatim and later quantitatively coded according to three criteria: Outcome, Affect, and Motivation.

All testing was done by the author, a white American male. Individual testing sessions were held in small, quiet areas of the schools (supply rooms, school libraries, etc.). Group testing was done in the classrooms. Tests were administered to all subjects in the same order (in two individual sessions and one group session spread over a 7-month period), with individual sessions held first in order to build rapport and less potentially threatening measures administered before more threatening ones.

While not entirely consistent, the results of this study were generally favorable to the open classroom. Children who had received continuous, long-term open education proved to be more creative (on the Alternate Uses task) and generally more positive in attitudes toward school and learning than either the traditional or mixed group, and more internal in locus of control than the mixed group. There were no significant differences among the three groups in IQ or reading ability. Moreover, the open school group was not surpassed by the mixed or traditional school groups on any of the dependent measures.

But there were some inconsistencies in the findings and some unconfirmed hypotheses. Contrary to prediction, for example, there were no differences among teaching approach groups on the curiosity measure, nor were there any differences on the sorting task or on certain sub-scales of the locus of control and attitude measures. Some of these inconsistencies were due to differences which were found between individual schools within teaching approaches. Some were due to confounding sex effects. Some were due to technical problems with the measures themselves.

While the findings of the study point to some definite advantages of open education, it is clear that not all children respond best to the open approach. More research is needed on individual differences in children's reactions to the open classroom, as is research aimed at specifying the particular classroom characteristics which lead to those differing reactions.

There is room in our educational system for a wide range of teaching styles, and the empirical evidence presented in this study suggests that the open classroom deserves support as a viable and sometimes beneficial alternative to traditional methods. How the best aspects of both open and traditional approaches can be selected and integrated to meet

the varying needs of children is a question which teachers and researchers will have to answer in the future.

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